

REMARKS

This Application has been carefully reviewed in light of the Official Action issued September 30, 2010. Claims 1-12 are pending in this Application. Applicant respectfully requests reconsideration and favorable action in this Application.

Claims 1-4 and 9-12 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,453,354 issued to Jiang, et al. in view of U.S. Publication No. 2002/0161855 published by Manczak, et al. Independent Claims 1, 9, and 10 recite in general an ability to initiate an operation on the virtual metadata, lock the virtual metadata during execution of the operation, begin execution of the operation on the virtual metadata, determine whether a source metadata server maintaining the virtual metadata is to be relocated during execution of the operation wherein relocation of the source metadata server involves sending the virtual metadata from the source metadata server to a target metadata server, determine whether the virtual metadata is under hierarchical storage management, release a lock on the virtual metadata in response to relocation of the metadata server during execution of the operation on the virtual metadata and the virtual metadata being under hierarchical storage management. By contrast, the Jiang, et al. patent merely discloses that it can place locks on its files upon a data access request.

In the Jiang, et al. patent, a first data mover receives a file access request from its client and accesses its directory of file ownership information to determine whether or not it owns the file to be accessed in its first file system. If the first data mover does not own the file to be accessed, then the first data mover sends a metadata request

to a second data mover that owns the file to be accessed. For example, if the first client requests access to a file in a second file system of the second data mover, then the first data mover sends a metadata request to the second data mover. In response to a metadata request, the second data mover owning the file accesses its second file system, places any required lock on the file, and returns metadata including pointers to the file to be accessed in the second file system to the first data mover. The client then uses the metadata returned to the first data mover to formulate a read or write request sent by the first data mover over a bypass data path to the second file system.

However, the Jiang, et al. patent only discloses placing a lock on a file to be accessed and fails to disclose any capability to place a lock on the associated or any metadata. Moreover, the Jiang, et al. patent merely discloses a file access technique and fails to disclose an ability to relocate a source metadata server let alone release a lock on virtual metadata in response to relocation of the source metadata server as required by the claimed invention. All of the portions of the Jiang, et al. patent cited by the Examiner are directed to accessing a file on a remote file system using associated metadata and not to relocation of metadata source to a new server as required by the claimed invention. Moreover, the Examiner readily admits that the Jiang, et al. patent fails to disclose metadata servers and relocation of metadata from one metadata server to another.

To offset the deficiencies of the Jiang, et al. patent, the Examiner cites the Manczak, et al. application for its metadata and data storage including hierarchical storage management. However, the Manczak, et al. application discloses the storage of metadata in a metadata server

separate from its associated file data stored on a bitfile storage server. See Paragraph [0034] of the Manczak, et al. application. The Manczak, et al. application discloses that there can be redundant servers and file data can be stored in one or more locations and reflected as such in the associated metadata. The Manczak, et al. application only discloses that the data can be relocated from one storage device to another. See Paragraph [0051] of the Manczak, et al. application. Contrary to the Examiner's assertion, the Manczak, et al. application fails to disclose any ability to relocate the metadata server. The Manczak, et al. application only discloses that the metadata server is updated when the data is moved to a new storage device. See Paragraph [0052] of the Manczak, et al. application. At no point does the Manczak, et al. application provide any ability to relocate the metadata as required by the claimed invention. Thus, the Manczak, et al. application only addresses data migration and not metadata relocation.

The Examiner relies on the scalable, redundant, and transparent terminology provided in the Manczak, et al. application. However, as provided in the Manczak, et al. application, scalability merely relates to a size of the storage architecture. Redundancy merely refers to providing a mirrored backup server to overcome a failure in a primary server. Transparency merely refers to migration of data where a client need not know where the data is stored. None of these terminologies are applicable to the relocation of metadata as provided in the claimed invention. The Manczak, et al. application merely discloses data migration, not relocation of metadata, and thus the Examiner's reliance on any disclosure therein to the relocation of metadata from one server to another cannot be supported by any stretch of the

plain language of the Manczak, et al. application to meet the terms of the claimed invention.

Moreover, the Manczak, et al. application fails to address how to handle a situation where an operation is being performed on metadata upon determining that the associated metadata server is to be relocated as provided in the claimed invention. Further, the system of the Manczak, et al. application teaches away from metadata migration. See Paragraph [0030] where it states ". . . while adding BSS nodes increases capacity of the system without the requirement of any explicit migration of file data or metadata." Accordingly, the structure that would result in placing the data migration capability of the Manczak, et al. application into the file access system of the Jiang, et al. patent would still fail to disclose an ability to relocate a metadata server that involves sending virtual metadata from a source metadata server to a target metadata server as required by the claimed invention. Therefore, Applicant respectfully submits that Claims 1-4 and 10-12 are patentably distinct from the proposed Jiang, et al. - Manczak, et al. combination.

Claims 5-8 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,453,354 issued to Jiang, et al. in view of U.S. Publication No. 2002/0161855 published by Manczak, et al. and further in view of U.S. Patent No. 6,981,005 issued to Cabrera, et al. Independent Claim 5 recites ". . . locking virtual metadata maintained by the current metadata server during execution thereof by one of the computer system nodes, the virtual metadata being DMAPI enabled; beginning execution of the operation on the virtual metadata; initiating relocation of the current metadata server to the new metadata server during execution of the virtual metadata, wherein relocation involves sending the virtual

metadata from the current metadata server to the new metadata server; releasing a lock on the virtual metadata in response to initiating relocation of the metadata server during execution of the virtual metadata; sending the virtual metadata from the current metadata server to the new metadata server." Thus, Independent Claim 5 includes similar features found in Independent Claims 1, 9, and 10 shown above to be patentably distinct from the proposed Jiang, et al. - Manczak, et al. combination. Moreover, the Cabrera, et al. patent fails to disclose relocation of a metadata server that involves sending the virtual metadata from the current metadata server to the new metadata server or release of a lock on a virtual metadata in response to relocation of the current metadata server as required by the claimed invention. Therefore, Applicant respectfully submits that Claims 5-8 are patentably distinct from the proposed Jiang, et al. - Manczak, et al. - Cabrera, et al. combination.

Applicant respectfully requests a one month extension of time for submitting this Response to Examiner's Action. Attached herewith is a Notification of Extension of Time in support thereof.

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PATENT APPLICATION
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CONCLUSION


Applicant has now made an earnest attempt to place this case in condition for allowance. For the foregoing reasons, and for other reasons clearly apparent, Applicant respectfully requests full allowance of all pending claims.

The Commissioner is hereby authorized to charge any fees or credit any overpayments associated with this Application to Deposit Account No. 02-0384 of BAKER BOTTS L.L.P.

Respectfully submitted,

BAKER BOTTS L.L.P.

Attorneys for Applicant

A handwritten signature in black ink, appearing to read 'Charles S. Fish', is written over the printed name.

Charles S. Fish

Reg. No. 35,870

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Correspondence Address:

2001 Ross Avenue, Suite 600

Dallas, Texas 75201-2980

(214) 953-6507

Customer Number: 05073